

**ABSTRACT OF THE INVENTION**

A wafer edge etching apparatus and method for etching an edge of a semiconductor wafer including a bottom electrode, arranged below the semiconductor wafer and acting as a stage to support the semiconductor wafer. A method of etching a semiconductor wafer including inserting a semiconductor wafer into a chamber, increasing a pressure in the chamber, supplying at least one etchant gas to the chamber while further increasing the pressure, supplying power to the chamber and etching the semiconductor wafer at the edge bead or the backside of the semiconductor wafer, discontinuing the power and the etchant gas, venting the chamber with a venting gas, and purging the venting gas from the chamber.